IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A kneadable and moldable bone-replacement material ~~which consists of~~ comprising a mixture of:

~~A) calcium-containing ceramic particles wherein the ceramic particles comprise a calcium-phosphate ratio having a molar Ca/P relationship between 1.0 and 2.0, wherein the calcium phosphate is selected from the following group: : Dicalcium-phosphate-dihydrate (CaHPO4 x 2 H2O), dicalcium-phosphate (CaHPO4), alpha-tricalcium-phosphate (alpha-Ca3(PO4)2), beta-tricalcium-phosphate (beta-Ca3(PO4)2), calcium-deficient hydro-xylapatite (Ca9(PO4)5(HPO4)OH), hydro-xylapatite (CA10(PO4)6OH)2), carbonated apatite (Ca10(PO4)3(CO3)3(OH)2), flouride-apatite (Ca10(PO4)6(F,OH)2), chloride-apatite (Ca10(PO4)6(Cl,OH)2), whitlockite ((Ca,Mg)3(PO4)2), tetracalcium-phosphate (Ca4(PO4)2O), oxyapatite (CA10(PO4)6O), beta-calcium-pyrophosphate (beta-Ca2(P2O7), alpha-calcium-pyrophosphate, gamma-calcium-pyrophosphate, octo-calcium-phosphate (Ca8H2(PO4)6 x 5 H2O), wherein at least 50% of the ceramic particles have a pore size between 100 and 500 micrometers, wherein a bulk density of the ceramic particles is between 0.6 g/ccm and 1.0 g/ccm, wherein the jarring density of the ceramic particles is between 0.7 g/ccm and 1.1 g/ccm and wherein an average diameter of the ceramic particles is between 100 and 250 micrometers. ; and**

A) calcium-containing ceramic particles wherein the ceramic particles comprise a calcium to phosphate ratio having a molar Ca/P relationship between 1.0 and 2.0, wherein the calcium phosphate is selected from the following group: dicalcium phosphate dihydrate ($CaHPO_4 \bullet 2\ H_2O$); dicalcium phosphate ($CaHPO_4$); alpha tricalcium phosphate (α-$Ca_3(PO_4)_2$); beta tricalcium phosphate (β-$Ca_3(PO_4)_2$); calcium deficient hydroxylapatite ($Ca_9(PO_4)_5(HPO_4)OH$); hydroxylapatite ($Ca_{10}(PO_4)_6(OH)_2$); carbonated apatite ($Ca_{10}(PO_4)_3(CO_3)_3(OH)_2$); flourapatite ($Ca_{10}(PO_4)_6F_2$); chlorapatite ($Ca_{10}(PO_4)Cl_2$); whitlockite; tetracalcium phosphate ($Ca_4(PO_4)_2O$); oxyapatite ($Ca_{10}(PO_4)_6O$); beta calcium pyrophosphate (β-$Ca_2P_2O_7$); alpha calcium pyrophosphate; gamma calcium pyrophosphate; and octo-calcium

phosphate ($Ca_8H_2(PO_4)_6 \cdot 5\ H_2O$); wherein a bulk density of the ceramic particles is between 0.6 g/cm^3 and 1.0 g/cm^3 and wherein an average diameter of the ceramic particles is between 100 and 250 μm; and

B) a hydrogel or a substance that can be swelled into a hydrogel, and wherein:

C) the ceramic particles are of fully synthetic origin;

D) the individual ceramic particles have at least a partially cohesive, porous structure; and

E) the majority of the ceramic particles have a non-spheric shape.

2. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein the ceramic particles have an angular shape.

3. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein the ceramic particles have a sphericity relationship S=Dmax/Dmin a largest diameter Dmax and a smallest diameter Dmin which is larger than 1.2.

4. (Previously Presented) The bone-replacement material in accordance with claim 3, wherein the sphericity relationship S is larger than 3.

5 - 9. (Canceled)

10. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein porosity of the ceramic particles is between 60 and 90 percent.

11.-16. (Canceled)

17. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein a share of ceramic particles of non-spheric shape is at least 60%.

18.-20. (Canceled)

21. (Currently Amended) The bone-replacement material in accordance with claim 1, further including ~~wherein ceramic particles with an average diameter of 100 to 250 micrometers are used together with those~~ ceramic particles having an average diameter of 250 to 500 micrometers and/or ~~together with those~~ ceramic particles having an average diameter of 0.5 to 5.6 mm.

22.-25 (Canceled)

26. (Withdrawn) The bone-replacement material in accordance with claim 1, wherein the ceramic particles consist of a mixture of different calcium-phosphates.

27-30. (Canceled)

31. (Previously Presented) The bone-replacement material in accordance with claim 1, further comprising metallic or semi-metallic ion shares as additives.

32. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein the hydrogel or the substance which can be swelled into a hydrogel consists of fully synthetic substances.

33. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein the hydrogel or the substance which can be swelled into a hydrogel consists of natural biological substances, preferably of plant origin.

34. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein the hydrogel or the substance which can be swelled into a hydrogel consists of a biotechnologically generated substance.

35. (Previously Presented) The bone-replacement material in accordance with one claim 32, wherein the hydrogel or the substance which can be swelled into a hydrogel consists of a mixture of fully synthetic, natural biological or biotechnologically generated substances.

36. (Currently Amended) The bone-replacement material in accordance with claim 1, wherein the hydrogel or the substance which can be swelled into a hydrogel contains one of the following components: a) polyamino-acids or their derivatives, preferably polylysin or gelatin; b) polysaccharides and their derivatives~~, preferably glycosaminoglycane glycosaminoglycan or alginate~~; c) polylipides, fatty acids and their derivatives; d) nucleotides and their derivatives; or a combination of the components as listed in a) through d).

37. (Withdrawn) The bone-replacement material in accordance with claim 1, wherein the hydrogel or the substance which can be swelled into a hydrogel contains one of the following components: a) polymethylenoxide or its derivatives; b) polyethylene, polyethylenoxide or their derivatives; c) polypropylene, polypropylenoxide or their derivatives; d) polyacrylate or its derivatives; or a combination of the components as listed in a) through d).

38. (Currently Amended) The bone-replacement material in accordance with claim 1, wherein the hydrogel or the substance which can be swelled into a hydrogel consists of either a ~~glycosaminoglycane~~ glycosaminoglycan or a ~~proteoglycane~~ proteoglycan or a mixture of those two substances.

39. (Currently Amended) The bone-replacement material in accordance with claim 38, wherein the ~~glycosaminoglycane~~ glycosaminoglycan is a ~~hyaluron-acid~~ hyaluronic acid, chondroitinsulfate, dermatansulfate, heparansulfate, ~~heparine~~ heparin or keratansulfate.

40. (Currently Amended) The bone-replacement material in accordance with claim 1, wherein a concentration of the ready-to-use, hydrated hydrogel or a ready-to-use, hydrated substance which can be ~~swellen~~ swelled into a hydrogel is between 0.1% and 20.0%.

41. (Currently Amended) The bone-replacement material in accordance with claim 1, wherein a molecular weight of the hydrogel or the substance which can be swelled into a hydrogel ~~is~~ larger than 300,000 Dalton ~~and preferably larger than 500,000 Dalton~~.

42. (Currently Amended) The bone-replacement material in accordance with claim 41, wherein the molecular weight of the hydrogel or the substance which can be swelled into a hydrogel ~~is~~ larger than 1,000,000 Dalton ~~and preferably larger than 1,500,000 Dalton~~.

43. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein the hydrogel is a liquid solution of a hyaluronate.

44. (Previously Presented) The bone-replacement material in accordance with claim 43, wherein the liquid solution of the hydrogel contains less than 99% water.

45. (Currently Amended) The bone-replacement material in accordance with claim 43, wherein the liquid solution of the hydrogel contains less ~~that~~ than 96.5% water.

46. (Currently Amended) The bone-replacement material in accordance with claim 43, wherein the molecular weight of the ~~hyaluron-acid~~ hyaluronic acid used is larger than 1.5 x 10^6 Dalton.

47. (Currently Amended) The bone-replacement material in accordance with claim 43, wherein the molecular weight of the ~~hyaluron-acid~~ hyaluronic acid used is between 0.5 x 10^6 and 1.0 x 10^6 Dalton.

48. (Currently Amended) The bone-replacement material in accordance with claim 43, wherein the molecular weight of the ~~hyaluron-acid~~ hyaluronic acid used is smaller than 1 x 10^6 ~~and preferably smaller than 0.5 x 10^6 Dalton~~.

49. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein a specific gravity of the calcium-containing, porous ceramic particles is between 0.5 and 1.0 g/ccm.

50. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein a weight relationship A/B between the hydrated hydrogel and the calcium-containing ceramic particles is larger than 0.2.

51. (Previously Presented) The bone-replacement material in accordance with claim 50, wherein the weight relationship A/B is between 0.2 and 0.5.

52. (Withdrawn) The bone-replacement material in accordance with claim 50, wherein the weight relationship A/B is between 0.5 and 0.9.

53. (Withdrawn) The bone-replacement material in accordance with claim 50, wherein the weight relationship A/B is between 0.9 and 1.3.

54. (Withdrawn) The bone-replacement material in accordance with claim 50, wherein the weight relationship A/B is between 1.3 and 2.0.

55. (Withdrawn) The bone-replacement material in accordance with claim 50, wherein the weight relationship A/B is between 2 and 5.

56. (Withdrawn) The bone-replacement material in accordance with claim 50, wherein the weight relationship A/B is larger than. 5.